Nevada Creek Canal Design and Construction Project

EXHIBIT 1
DATE Jan 19 '05
HB 6

Nevada Cr Water Project

- History:
  - Project financed by loan & grant from PWA + SWCB funds
  - Completed in 1940

- Components:
  - Dam – 12,640 acre-feet
  - North Canal – 13.4 mi., 49 cfs delivery canal
  - Douglas Canal – 12.6 mi., 50 cfs delivery canal

- Provides:
  - 8,440 market shares of water for irrigation @$8.00/ac-ft
  - 35 water contracts ~ about 20 ranch families
  - Irrigation for nearly 10,000 acres
    - Over 90% of crops consist of hay (less than 10% grains)
    - Most users harvest only one hay crop per year
    - Approximately 75% of hay crop is wild hay (only 25% alfalfa)
    - Most hay provides winter feed for cattle; little or no hay sold as crop

- Recent rehab work:
  - Dam rehabilitation & spillway improvement Yr 2004
  - Water Users borrowed $500,000
  - WU still owe $368,118

Delivery Canal Issues:

- Douglas Canal – severe seepage problems; 400 feet lined in '92

  - Slope stability problem
    - Narrow, hillside berm abuts Nevada Creek, which undercuts toe
    - Berm excessively pervious, exhibits much seepage
    - Severe seepage undermines stability of berm

  - Berm failure liabilities:
    - Fines and possible lawsuits against DNRC for pollution
    - Fines and crop losses for Nevada Cr Water Users
    - ESA – Bull Trout

- North Canal – severe undercutting of canal prism

  - Five wood drop structures (4,000' canal prism) accidently burned up in '97
  - Slope now too steep → excessive flow velocities
  - Excessive flow velocities undercut canal banks
    - Erosion of canal prism
    - Inordinate quantities of debris deposited
    - Highly turbid flow

Nevada Creek Canal Design and Construction Project Goals:

- Douglas Canal – line 2000 feet of canal prism with EDPM membrane
    - Construction Cost Estimate: **$41,000** (+ 10% contingency)
    - Prevent hillside berm from collapsing into Nevada Cr
    - Avert loss of irrigation water from the system
    - Protect Nevada Cr against pollution
    - Forestall economic loss to Nevada Cr Water Users
    - Protect DNRC against liability
    - Anticipate water loss = 1.5 to 2.5 acre-ft/day.

- North Canal – rebuild destroyed drop structures
    - Construction Cost Estimate: **$49,000** (+ 10% contingency)
    - Restore stability and functionality of canal prism
    - Reduce sediment load in canal
    - Prevent excessive turbidity

Other Considerations:

- Although irrigation is lifeblood for rural communities, only 17% RRGL funds are earmarked for funding irrigation projects. Municipalities captured 59% of the recommended allocation of funds.

- Municipalities can apply for TSEP funds for drinking water systems, wastewater treatment facilities, storm sewer systems, and solid waste disposal systems, but irrigation projects have fewer funding options.

DOUGLAS CANAL LINING PROJECT SITE (CONT'D)

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NORTH CANAL DROP STRUCTURE REPLACEMENT SITE

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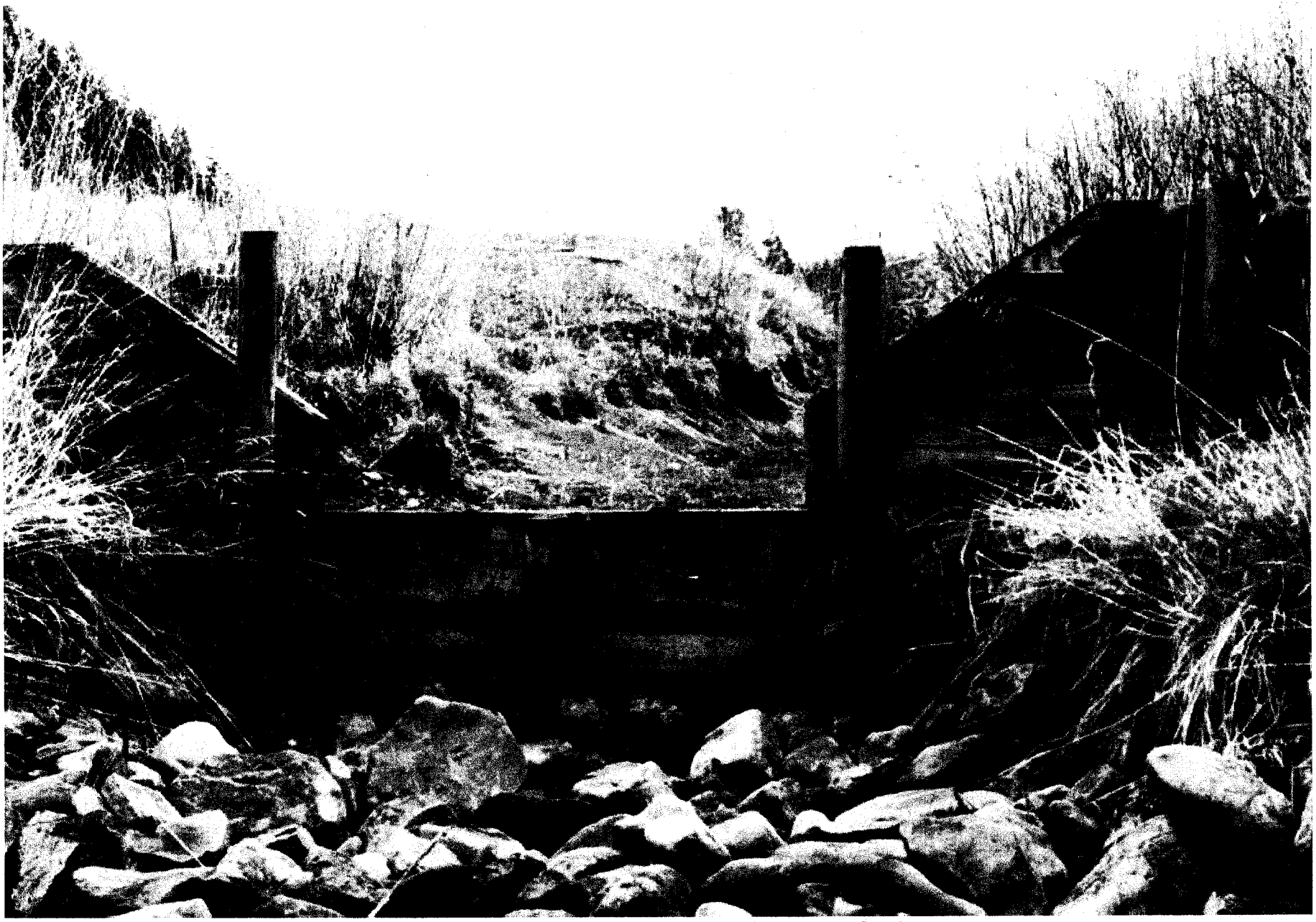

NORTH CANAL DROP – A SURVIVOR!